

Michael Schuck Bebb.

WALTER DEANE.

WITH A PORTRAIT.—PLATE IV.

Once more we are called upon to mourn the loss of one of our leading systematic botanists, Michael Schuck Bebb, a man who in his own specialty stood without a peer, and in whom a gentle refined nature, an enthusiastic pursuit of his favorite study, and scholarly tastes, were joined to a keen and critical mind. He was a true student of nature. Accustomed to an out-of-door life from his earliest years, he acquired a deep love for the world about him and a sharpness of observation that later bore noble fruit when his mind was turned to botanical studies and in particular to the willows.

His early training peculiarly fitted him to deal with a subject that required most careful and patient work both in the field and in the study, and he treated that most difficult genus *Salix* with a master mind. Mr. Bebb won a well-deserved reputation as the leading salicologist of this country and Europe, and his valuable contributions to science will remain as a permanent memorial. Within the past few years our ranks have been sadly depleted by the death of many of the older botanists, men who wrought at the foundations of systematic botany in this country, and to whom the younger generation owes everything. Our friend was one of these. Quietly, unostentatiously, and with unremitting labor he did his work, and with sad but grateful hearts we pay our tribute to his memory.

In the year 1789, Edward Bebb, the grandfather of the subject of our notice, in company with his young bride floated down the Ohio river in a flat-bottomed boat to start their new home in Butler county, southern Ohio. The story of their marriage is a romantic one and deserves special mention. Edward Bebb was a Welshman and, on leaving his old home some years before, to fight his way to success in the new world, he left behind him a young girl, a native of Wales, Margaret Roberts, to whom he was engaged. He intended to return for her later when he had secured a home. There was but little communication between the two countries in those early

days, and as some years passed by and Edward Bebb was not heard from, Mr. and Mrs. Roberts thought that he had forgotten their daughter, and she was persuaded to marry a young clergyman.

The newly married couple sailed for America, but on the voyage misfortune came upon them. A cargo of copperas which the ship had taken on a previous trip had poisoned the water, and this unhappy circumstance caused the death of Margaret's husband and many other passengers. When the ship reached Philadelphia, the young widow made her way to her brother's home in Johnstown, Penn., doubtless intending to stay there till she could return to her native country. Meanwhile Edward Bebb, seeing his way clear to return to Wales for the maiden whom he had not seen for so long, had actually started on his way. His route lay through Johnstown, and there the lovers met. They were married, and over a hilly country they walked for eighty miles to Pittsburg, whence they floated down the Ohio river to the home which Edward had been faithfully preparing. For three years he had been a pioneer in the Miami valley, in southwestern Ohio, clearing up his farm and building his two-storied house of hewn logs.

In 1802, William Bebb, one of three children, was born. As a baby he "was often entrusted to the care of the Indian women," belonging to the friendly Miami Indians who had a camp near by, "and swung from a bough with the rest of the pappooses." His early life was spent on the old place. Arrived at manhood he conducted a successful boarding-school, less than a mile from his old home in the same county, and it was during this time that he studied law and was admitted to the bar. He married Sarah, the daughter of Michael Schuck, a German, and by her he had five children, one of whom was Michael Schuck Bebb.

He was born on December 23, 1833, in the school building, and was named for his grandfather. In later years he described his birthplace thus:—"There was a brick building with hallway through the middle, and a broad veranda and kitchen in the rear, for dwelling and boarding-house; a long frame two-story barn-like structure for dormitory, and a separate schoolhouse. Besides, the older boys had log cabins which they built for themselves and to which they could retire for quiet study or for little suppers of their own which were probably not so quiet!"

Shortly after Michael's birth, the school was closed and in 1835 the family moved to Hamilton, the county seat, a few miles distant, where Mr. Bebb wished to practise law. He had already become a very successful lawyer, as was attested by the comfortable house and ample grounds which they now occupied. Here Michael's boyhood was spent, and here began his first love for botany. "The pleasure grounds, vegetable and fruit gardens," he writes, "occupied four acres. There were four acres more of pasture for the horse and cow," and in addition to this four acres of *Morus multicaulis* with a cocoonery. "The garden was laid out in old-fashioned geometric style; the borders well filled with rare shrubs and perennials, Holland bulbs, and, I am happy to add, native plants as well." If we add to this a well-stocked greenhouse, twenty by one hundred and fifty feet in dimensions, we can readily understand how Michael early acquired a passion for the study of the plants about him.

He attended a private school, did a boy's share of work on the farm and in the garden, and enjoyed the companionship of the head gardener, whose practical talks on horticultural subjects made a great impression upon him. In later years he spoke with great fondness of this time, and he always dwelt very tenderly upon the influence of his mother, "a fair-haired, comely, serene woman, who had almost the entire care of the social, moral and home life of the family of five children." On the occasion of her death in 1892, he writes, "It was the closing of a long and useful life. Two traits in her character were so predominant as to be at once recognized by every one with whom she came into personal relations; first, an unswerving conscientiousness; second, a wonderful placidity of demeanor." It is when we know of such influences as these that we can understand the genial nature and the true love for home and family that were so prominent in Mr. Bebb.

In his father's library in Hamilton were many books on horticulture, more or less botanical in character, but it was through the influence of his uncle, Evan Bebb, a merchant in New York city, that his father received some volumes relating to purely botanical subjects. These were a complete set of the Natural History Reports of the State of New York, which included the two volumes of Torrey's Flora. A little later Emerson's Trees and Shrubs of Massachusetts was added

to the collection. Young Bebb seized upon these with avidity, for before this, as he himself says, he did not know that there was such a thing as a text-book or introduction to the study of the science, with a key by which the young student might trace the genera and species, and learn something of their relationship.

Mr. Bebb was about sixteen years old at this time, and by these valuable acquisitions, an added impulse was given to his pursuit. He quickly found the key to families and genera. He had never seen anything like it before, and then for the first time he recognized its use and its value. Here was order and system. "Going out into the garden," he says, "I broke off a branch of a native shrub the common name of which was familiar, and easily traced it to *Viburnum Lentago*. This threw me into a perfect fever of excitement. I rushed out for fresh material with which I was equally successful." The way was now clear, and he quickly became familiar with every tree, shrub and herb about him. He started a little herbarium on sheets of quarto size, preparing the specimens as nearly as possible like the plates in the books he was studying, and drawing on the sheets the flower and fruit analyses. He had no idea that a fruit of any size, such as that of *Echinocystis*, could be pressed. We must not, indeed, despise the day of little things. From this small beginning and as a direct consequence of it, sprang the splendid herbarium of later years.

In the meantime Mr. Bebb's father had become actively engaged in politics. In the presidential campaigns of 1840 and 1844, he figured prominently as a zealous Whig, and in 1846 he was nominated for governor of Ohio on the Whig ticket and elected by an overwhelming majority. Governor Bebb declined, however, a second nomination and decided to withdraw from public life. Purchasing a tract of land embracing five thousand acres in the Rock river valley, in Winnebago county, northern Illinois, one hundred miles northwest of Chicago, he moved his whole family thither in the spring of 1850. To this estate he gave the name of Fountaindale. The regular route was by canal packet on the Miami canal to Sandusky, and thence by steamer to Chicago. Michael, at this time a boy of seventeen years, full of youthful vigor and enthusiasm, took quite a different course. He assisted his brother-in-law in driving a herd of Short-horn cat-

tle into the state of Illinois. Here was certainly a novel experience. The distance was four hundred miles, and a new flora was constantly opening out before him, giving him fresh delight each succeeding day.

The new home to which we are now introduced was to be the scene of important botanical labors. The boy botanist was to become a trained and skilled veteran, and his efforts were to be concentrated upon his favorite specialty. The estate consisted of beautiful, rolling, prairie land, "well watered," he says, "by cold, clear, spring-fed brooks, along the banks of which, where the water courses had given partial protection from prairie fires, were fine, open groves of oak." The house, built after a design by Charles Downing, was constructed of lumber hauled from Chicago, and was fifteen miles distant from the nearest town. The virgin prairie filled our young friend with eager delight. "Ah!" he writes, "that was lovely beyond description, and a perfect paradise for the out-of-doors botanist." His cup was full and running over with joy when he came into possession at this time of four standard books, Wood's Class Book of Botany, Gray's Botanical Text Book and Manual, Torrey and Gray's Flora of North America, and Gray's Genera Illustrata. Imagine the feelings of a young botanist, longing for the proper kind of systematic instruction, on receiving at one and the same moment such a collection as this. But it was still five or six years more before he was to know the advantage and the keen pleasure to be derived from personal acquaintance with fellow botanists, and the consequent interchange of ideas as well as exchange of specimens.

During the early years of the family life at Fountaindale, Michael, besides working on the farm and studying the native flora, attended Beloit college at Beloit, Wisconsin. About the year 1856 he met by chance, at one of the state fairs which he was attending, Dr. George Vasey, then living at Ringwood, Illinois. The acquaintance soon ripened into a warm friendship, and the reception of a package of grasses, sedges, and junci from Dr. Vasey a few weeks later, gave him the first taste of the delights of receiving authentically named botanical specimens from others. It is interesting to hear what he says of this event. Such enthusiasm belongs to the true botanist. "I cannot tell how rich this made me. I spread the specimens out over the floor, over the chairs, over the

piano. I gloated over them. Here were some of the very things from 'Oneida Co., N. Y.,' mentioned in Dr. Torrey's Flora! What rare and valuable authentic material!"

In 1857 he was married to Katherine Hancock at Barre, Massachusetts, and it was shortly after this that the whole family moved away from Fountaindale, and for a few years Mr. and Mrs. Michael Bebb lived in various parts of the state, in Odin and Salem, southern Illinois, and in Springfield. At these places he made extensive collections of plants. In 1859 he made a trip east and derived fresh inspiration from meeting Dr. Asa Gray. At Springfield, Massachusetts, he attended a meeting of the American Association for the Advancement of Science, where he met the eminent botanists of the day, and he returned home with new and enlarged ideas as to what to do and how to do it. Nobody was more ready to profit by the advice and experience of others.

Meanwhile Mr. and Mrs. William Bebb after leaving Fountaindale went to Knoxville, Tennessee, where Mr. Bebb practised law and interested himself in a Welsh colony which was starting in the mountains of eastern Tennessee. At the outbreak of the civil war, however, the family lost everything, even their personal property, and were driven from the state. They went to Washington where, through the influence of President Lincoln, Mr. Bebb obtained a position in the Patent office. They moved to Rockford, Illinois, in 1869, where Mr. Bebb died in 1873, and his wife in 1892.

In the latter part of 1861 Michael Bebb moved to Washington with his wife and two children and obtained a position in the Pension office. Here he remained till 1867, and in spite of the duties of his office and the troublous times of the war, it was a period of intense botanical delight and activity with him. He quickly became acquainted with the leading scientific men of the city, joined the Naturalists' Club, collected plants eagerly during his hours of leisure, carried on a large correspondence with the botanical world and made copious exchanges. He soon became the intimate friend of Mr. William M. Canby, and his many letters to this well-known botanist are true botanical treasures. They show the real spirit of scientific enthusiasm and give a clue to that love of careful research that enabled him to become so accurate in his observations. He paid special attention to the difficult genus *Juncus* and illustrated his notes by careful drawings of details.

This material he afterwards handed over to Dr. George Engelmann for his revision of that genus. He numbered among his correspondents at this time, Asa Gray, Canby, Robbins, Vasey, Eaton, E. Hall, Porter, F. Peck, Mead, Blake, Clinton, Bolander, T. F. Allen, T. Green, Gmelin, and many others. The friendships that came to him through his scientific pursuits appealed to him very deeply. In 1862 he writes to Mr. Canby, "Botany is eminently a social science, and among the purest and best of the pleasures the pursuit thereof brings me, I count the friendship of fellow students." How true this was, those who knew him best can testify. He was a most "lovable man" and his intimate friends valued his friendship among their dearest possessions.

In 1865 his wife died, leaving him with three little children, two boys and a girl, and in June, 1866, he resigned his position at the Pension office. On February 19, 1867, Mr. Bebb married Anna E. Carpenter of Providence, Rhode Island, who became the mother of four sons and two daughters. She was a graduate of Mount Holyoke Seminary, in Massachusetts, and a daughter of Edmund and Lemira Carpenter whose parents were prominent during the Revolution. A few weeks after their marriage they left Washington and went to Illinois. Mr. Bebb's father, being at this time in Washington and not desiring to return to Fountaindale, had offered the estate for sale, and Mr. Bebb, who had always longed to realize the ideal life of a country gentleman, bought the old homestead with its acres of rich prairie land. Financially the undertaking was not a success, and in 1873 he thought seriously of selling the place, owing to the "large influx into the west of a foreign population and consequent overproduction of farm staples" which had destroyed farming except for those willing to work with their own hands for small returns. His pecuniary affairs, however, took a turn for the better soon after, and he decided to remain where he was. Still his life in Fountaindale was a checkered one. He was forced to contend against every discouragement for many years in the midst of his ardent pursuit of botany. During this time and afterwards, when his health began to fail, in all his labors on the farm and among his plants, in all his triumphs and in all his disappointments, he was ever sustained and encouraged by the constant devotion and ready self-sacrifice of his wife. She cheerfully and lovingly took upon her-

self almost the entire care of the household, brought up a family of nine children, and yet found time to take a deep interest in her husband's botanical work and be his constant aid. To her is largely due the success which he attained as an eminent salicologist.

It was about the year 1873 that Mr. Bebb gave himself up to the special study of willows. He had shown a growing interest in this subject for some years, and at this time was corresponding with Rev. J. E. Leefe, the British authority on *Salix*. Even as far back as February, 1861, he wrote "*Salix* is my pet genus if I have any special preference." No decided inclination, however, was shown in this direction till now. It is interesting to note the circumstance that led him to devote himself heart and soul to this group. He tells the story briefly in his own fascinating words. "Within gunshot of the house was a charming bit of lowland prairie upon which flourished the most diversified wild growth of willows I ever saw or heard of—my school in the study of this genus." This lay along a creek and was entirely undisturbed by cultivation. Mr. Bebb guarded it with jealous care, and in this school, with nature for a teacher, he learned how to unravel many a knotty problem. He soon became an authority, and in 1874 he was asked by Dr. Asa Gray to contribute the *Salices* to Brewer and Watson's *Botany of California*. It was in this year that he published in the *American Naturalist* his first paper on willows, entitled "A new species of willow (*S. laevigata*) from California, and notes on some other North American species."

In a letter to Dr. Gray, dated January 3, 1873, Mr. Bebb speaks of his longing for spring that he might set out his salicetum. This plantation of willows grew to large proportions and was of the greatest value to him in his studies. It covered an extent of two acres and was composed, Mrs. Bebb says, "of rare and varying forms of our native willows, which were sent to him by correspondents, and also a fine collection of European willows sent by Dr. Hooker from Kew." The labor and care expended in collecting, planting and tending this willow garden can hardly be overestimated. In May, 1873, he writes that of one thousand cuttings sent him from Kew all came up successfully.

It was in 1858 that he laid the foundation of his herbarium, and by 1873 it had assumed very large proportions. It con-

sisted of about 15,000 species, illustrated by over 30,000 specimens. For fifteen years he had enjoyed a liberal exchange with the best collectors, and his special effort had been to illustrate the Gray Manual Flora, each species showing, as far as possible, flower, fruit and root, with marked varieties and geographical range. Besides these he had valuable additions from Europe and Southern Africa, and all these specimens he mounted himself with loving care. The specimens of his own collecting were of the finest quality, and were always an object of admiration to those who possessed them. He still carried on his wide botanical correspondence, and in 1878 he began to publish in the *BOTANICAL GAZETTE* various notes on willows, and this he continued to do till 1891. These consisted of six papers, entitled "Notes on North American willows," besides special observations on individual species. In this same year, 1878, he published the willows in Rothrock's Botany of the Wheeler Report, and in 1880 appeared his work on the willows in the Botany of California. In 1880 Nils J. Andersson, the eminent Swedish authority on the genus *Salix*, died, and Mr. Bebb stood without a rival at home or abroad. Every important collection of willows made in this country passed through his hands for determination, and not the least valuable portion of the work left behind him are these plants authentically named and scattered through the leading herbaria both here and in Europe.

Life in Fountaindale, however, at last came to an end, and in October, 1879, the family moved to Rockford, Ill. They still continued to visit the old home during the summer months, but, a few years later they sold the place, where Mr. Bebb had lived so long and had done so much valuable work on the willows, that the very words willow and Fountaindale will always be associated with each other. A practical farmer bought the estate, and truly did Mr. Bebb mourn the fate of his beloved garden. The wild growth of willows, his school in the study of that genus, "was speedily grubbed, drained and seeded down," he relates sadly. "The plantation of willows, which had cost me so much in care and outlay, was seized as a capital place to feed steers, and enclosed by a high board fence. The teams drove along between the rows. The fodder was thrown off on the bushes, and the cattle followed, eating at their leisure, with an occasional bite of bitter willow for tonic and stimulant." Even in times of deep distress he could show his fine sense of humor.

During the first few years of his life in Rockford, Mr. Bebb was as active as ever in his botanical pursuits, and in 1880 he attended the meeting of the American Association for the Advancement of Science at Portland, Maine. He had been present at the meeting of this society in 1872, at Dubuque, Iowa. In the winter of 1880 and 1881 he issued his first fascicle of *Salices*. These consisted mainly of specimens from plants either growing naturally at Fountaindale or set out in his willow plantation. Any herbarium is rich that possesses this collection. His skill as a draughtsman is shown in the beautiful drawings that accompany the plants. Mr. Bebb fully intended and hoped to issue a second fascicle, and he often referred to it in his letters, but various circumstances, combined with ill health, unfortunately prevented. In the autumn of 1885 he was seized with a severe attack of pleurisy and he never after regained perfect health. His interest in botanical subjects was still unabated, and he was enabled to accomplish much valuable work. He published in the *Bulletin* of the Torrey Botanical Club, between 1888 and 1890, four series of "Notes on the White Mountain willows," and in 1890 he contributed the *Salices* to the sixth edition of Gray's Manual. His correspondence from this time until his death is full of the charm of a graceful letter writer. He was always interested in all the questions of the day as well as in all branches of science. At one time he pursued with great zeal the study of conchology and made quite a collection of shells, and he acquired a good knowledge of entomology and geology, fully realizing the importance of their bearing on the study of plants.

Mr. Bebb was of a retiring nature, and most of his time in Rockford was spent in the privacy of his family. To his familiar correspondents his letters were always full of charming pictures of home scenes, and by many he will be affectionately remembered not as the botanist merely, but as a loving and devoted father. During a great deal of this time he was well enough to enjoy heartily the various festivities that the years brought round, and I cannot forbear giving his account of a Christmas scene in December, 1889. "From early morn when the youngsters came tumbling down stairs before it was yet light to explore the depths of their stockings, until late in the evening when the last member of the family put out the lights and went, rather tired withal, to bed, we had one of

just the merriest, happiest Christmases imaginable. Not a ripple of discontent to mar the enjoyment of the family festivity. The children were hilarious and the old folk serenely content. The demon of misfit, who stalks abroad at this season, overcoming some good, kindly, well-intentioned souls, happily brought not a single one of our friends under his baleful spell. On the contrary, many a little gift was rendered thrice welcome, because it at once recalled some wish expressed months ago and forgotten, save as loving remembrance on the part of others carried it on to the joyous season of good-will to all."

Adjoining his house was a small garden, and this was always his great delight. He worked in it constantly and kept it well supplied with hardy shrubs and perennials, many of which he secured from the Arnold Arboretum. His herbarium which is estimated to contain about 50,000 specimens, besides the willows, was still his constant thought. Though during his life in Rockford he was unable to add much to his general collection, he kept up his *Salix* herbarium to the very last. His willows filled two walnut cabinets, about three by five feet in dimensions, and these he kept apart from his other plants, and close at hand for ready use.

He was a member of the Philadelphia, Buffalo, and Chicago Academies of Science, and was complimented by having several plants named in his honor. In 1885 Prof. E. L. Greene published in the *Bulletin* of the California Academy of Science the genus *Bebbia*, native to Southern California and Arizona, with the following inscription: "The genus is dedicated to Mr. Michael S. Bebb of Rockford, Ill., an able botanist to whom all students of the science on the Pacific coast are indebted for the careful elaboration of our species of the difficult genus *Salix* in the second volume of the Botany of California." In 1889 Prof. L. H. Bailey created the variety, *Carex tribuloides* Wahl. var. *Bebbii*, common to the Gray's Manual region, and in 1895, Prof. C. S. Sargent published, in *Garden and Forest*, *Salix Bebbiana*, a species of northern North America, inscribing it to Mr. Bebb, "the learned, industrious and distinguished salicologist of the United States to whom, more than to any one else of this generation we owe our knowledge of American willows."

Though naturally shrinking from public notice, Mr. Bebb did his share as a faithful citizen of Rockford. For eight

years he was a member of the school board and he assisted largely by his energy and wisdom in raising the public schools to their present high standard. For eight years he served on the library board. In 1888 he bought a piece of land in southern Wisconsin on the shore of the Lauderdale lakes and built a small house, where for eight successive years the family spent their summers in rest and retirement. In this way Mr. Bebb avoided the summer heat and there he did some of his best work on the willows. He built with his own hands a lapstreak boat large enough to take all the family, and he was never tired of being rowed about over the clear water. August 9, 1888, he writes, "At the extreme west end of Middle lake are a number of immense springs probably the outlet of some subterranean communication with other bodies of water. They vary from ten to one hundred feet in depth, and to float over them in a boat gives one a strange impression, as if suspended in mid-air. The water is beautifully clear and slightly impregnated with sulphur. Down the sides of the bowl-shaped springs the banks are covered with an aquatic growth of fresh-water algæ of an intense emerald green, through which run sharply defined streaks of an intense purple or amethystine color, probably also a vegetable growth. At the bottom the water rises through clear white sand." Such descriptions as these show the delicately refined nature of the man.

Each year he found it harder to endure the rigorous winters of northern Illinois, and in January, 1893, he went alone to Demorest, Georgia, where he stayed between two and three months. His letters from this place are full of beautiful accounts of the scenery about him. He even felt able to do some salix work, for he contemplated a monograph of the North American willows, embodying the results of his many years of study. In January, 1894, he went to Clearwater Harbor, Florida. He enjoyed his stay there for three months and, before returning home, spent two weeks in Demorest. His last trip south was with his wife in January, 1895. They kept house for three months in Demorest, but unexpected cold weather rendered this visit unsuccessful, and Mr. Bebb was glad to get home.

In June, 1895, he published the willows of the Peary Auxiliary Expedition in *Bulletin V* of the Geographical Club of Philadelphia. With this exception he had not published any-

thing since 1891. His last contributions to the subject were now soon to follow. He devoted himself to work with a good deal of energy in the summer of 1895 toward finishing some notes which he had promised to *Garden and Forest*, and near the close of the year he published in these columns five series of "Notes on some arborescent willows." Mr. Bebb assisted in the forth-coming volume of Sargent's *Silva* by selecting the material from which Mr. Charles E. Faxon drew the willow plates, and by criticising the sketches which were all submitted to him.

During the past year, however, consumption had set in and his strength was failing fast. His summer at Lauderdale had brought no improvement, and it was decided to pass the winter in San Bernardino, California. He started with Mrs. Bebb November 2d, full of courage and hope, and he even formed plans of going on with the task which he had at heart. He was not able, however, to touch any botanical work, but constantly grew weaker. Mr. and Mrs. Samuel B. Parish were unremitting in their kind attentions and helped to brighten the last moments of the sick man. At last on the morning of December 5, 1895, Mr. Bebb passed quietly away surrounded by his wife and loving friends. The funeral took place at the family home at Rockford on December 13th. Dr. Thomas Kerr, his pastor, conducted the ceremony and spoke beautifully of Mr. Bebb's life and work. His six sons bore him from the house, and he was laid to rest in the West Side cemetery in the city.

Though Mr. Bebb was not allowed to finish his long cherished work, the revision of the willows for the *Flora of North America*, still he has left invaluable material relating to the subject, besides his *salix* herbarium containing the collections of years and enriched by his own notes and drawings. All this will be the basis of future work. Mr. Bebb by his character and ability honored the science with which he was so long identified, and he will always be remembered as a botanist of the highest rank.

Cambridge, Mass.

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